



**Orchard Establishment
Considerations**



Orchard Establishment Considerations

- When planning an orchard you need to consider many things, not just for the immediate time, but decades or more into the future.
- Things you do now will have a lingering affect on orchard operations a long time down the road.
- Plan ahead



Orchard Establishment Considerations

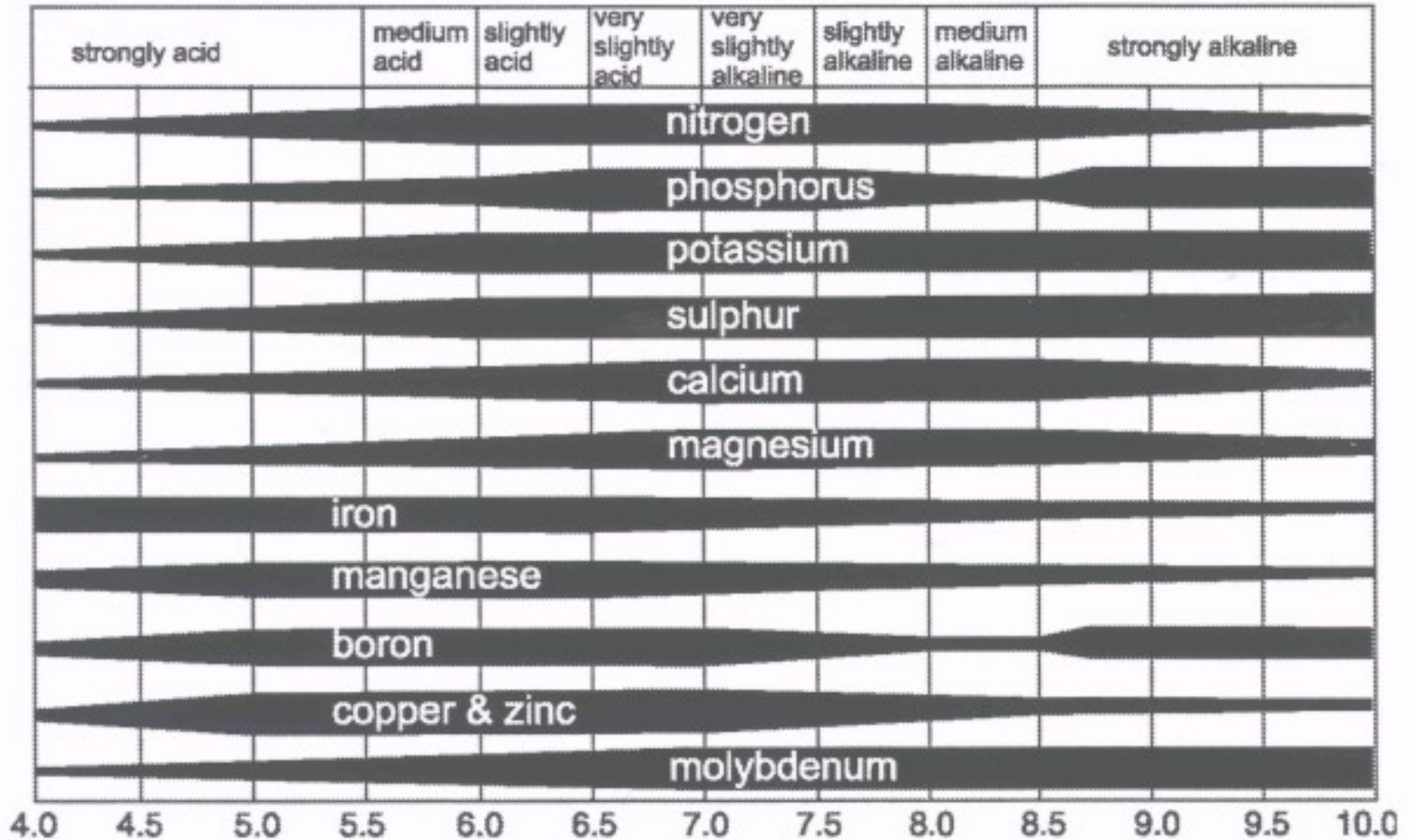
- Take some time to chose your site wisely
- Pick the best site, not just something off to the side. This is a long term project.
- You want good deep soil that is well drained. (+1.5 M)
 - The orchard soil must allow heavy equipment to pass through within a week or so of heavy rains





Orchard Establishment Considerations

- The site should be planar and slightly sloping with full sun exposure for most of the day
- Take soil samples in the upper 4-8" depth and 12-20" depth
 - Best pH is 6.5 but they can tolerate 5-7
 - Apply lime below pH of 5.6
 - See *Hybrid Hazelnut Fertilization* by Lois Braun, U of Minnesota
- **NO Nitrogen application** first year, see above
- Take nematode sample if land has been pasture or cropped
- Check to ensure no long life pesticides have been used





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- Drainage - of water:

Good surface drainage,

no ponding of surface runoff

Good subsurface drainage,

no springs in the orchard

Wet ground: impedes growth,

reduces oxygen levels in the soil,

lowers soil temperature,

decreases the efficiency of applied fertilizer



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- Drainage – of air:

Cold air flows like molasses

Avoid low areas and those sites with

“air dams” on the low side

Remove or open up tree lines or structures that could “dam” the free drainage of cold air

Figure I-1. Considerations for orchard sites.



Orchard Establishment Considerations

- Land Preparation –
 - Subsoil orchard in line with trees and at 90 degrees to rows
 - Fill in low spots in the fields
 - Run drain tiles and irrigation mains
 - Level or plane the orchard floor
 - Adjust soil chemistry well in advance of planting
 - Avoid concentrated brush burning on the orchard site.
 - The ash increases pH and potassium levels that may cause a nutrient imbalance



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Windbreaks -are often overlooked or removed for the sake of a gain of a small amount of extra ground

- Windbreaks provide a net gain of 10-15% yield over an area of up to 12 tree heights to their leeward side

» 50' X 12 = 600 ft.

- Windbreaks are necessary on sandy ground
- Windbreaks enhance tree growth

But not too close!

Varmints!



Chipmunks start at 10% nut meat fill in early August



Planning for the planting operations

- Stake out the field well ahead of planting day
- Ensure you have enough help to fill the needs
- Provide sun and wind shelter for the trees
- Provide 45 gal. drums of water to soak the trees before planting
- Stake the trees as you go and provide tube shelters
- Dig in the irrigation line and level the floor



- Planting is normally done with drag type plows, or with augers or by hand
- Ground should be open and free from clods, sticks or vegetation that would clog a tree planter. (rototill in advance)
- Roughen sides of holes drilled with an auger
- Protect the young trees from the sun and wind
- Follow the layout this is permanent



